

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-007373**Date Inspected:** 09-Jun-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG and Tower Fabrication**Summary of Items Observed:**

CWI Inspectors: Mr. Yumin Xu, Mr. Zou Lin Hai, Mr. Liu Fa Wen

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

Tower Bay 11

This QA Inspector observed ZPMC welder Ms. Wu Aixiang, stencil 040772 using submerged arc welding procedure specification WPS-B-T-2221-BU3-C-S-3 to make groove weld ESD1-FESA4-2A/FC-66A. The QA Inspector observed Quality Control (QC) personnel monitoring the base material temperature with a 110 degree Celsius temperature indicating crayon and QC personnel was monitoring other welding attributes. This QA Inspector measured a welding current of 650 amps and 30.5 volts. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Mr. Xue Yian, stencil 040634 using submerged arc welding procedure specification WPS-B-T-2221-BU3-C-S-3 to make groove weld SSD1-A111 B/H-3B. The QA Inspector observed Quality Control (QC) personnel monitoring the base material temperature with a 110 degree Celsius temperature indicating crayon and QC personnel was monitoring other welding attributes. This QA Inspector measured a welding current of 675 amps and 30.5 volts. Items observed by this QA Inspector appear to be progressing in

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compliance with project specifications.

This QA Inspector observed ZPMC welder Mr. Yang Meizhen, stencil 042195 using submerged arc welding procedure specification WPS-B-T-2221-BU3-C-S-3 to make groove weld SSD1-A111 B/H-1B. The QA Inspector observed Quality Control (QC) personnel monitoring the base material temperature with a 110 degree Celsius temperature indicating crayon and QC personnel was monitoring other welding attributes. This QA Inspector observed ZPMC QC had recorded a welding current of 671 amps, 31.0 volts and a welding travel speed of 515 mm per minute. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

OBG Bay 6

This QA Inspector observed ZPMC welder Mr. Fu Yanjie, stencil 066268 is using shielded metal arc procedure WPS-B-P-3313-TC-P5 to make tower double diaphragm tack weld SSD1-DPSA4-7B/B-016. The QA Inspector observed a welding current of approximately 270 amps and the base material where the weld is being made had been preheated with a torch to a temperature above 180 degrees Celsius. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wei Hengbin, stencil 068924 is using shielded metal arc procedure WPS-B-P-3313-TC-P5 to make tower double diaphragm tack weld SSD1-DPSA4-7B/B-017. The QA Inspector observed a welding current of approximately 275 amps and the base material where the weld is being made had been preheated with a torch to a temperature above 180 degrees Celsius. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhou Songsong, stencil 068091 is using shielded metal arc procedure WPS-B-P-3313-TC-P5 to make tower double diaphragm tack weld SSD1-DPSA4-14B/B-015. The QA Inspector observed a welding current of approximately 270 amps and the base material where the weld is being made had been preheated with a torch to a temperature above 180 degrees Celsius. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Niu DuoJun, stencil 037932 is using shielded metal arc procedure WPS-B-P-3313-TC-P5 to make tower double diaphragm tack weld SSD1-DPSA4-14B/B-014. The QA Inspector observed a welding current of approximately 260 amps and the base material where the weld is being made had been preheated with a torch to a temperature above 180 degrees Celsius. Items observed on this date appeared to generally comply with applicable contract documents.

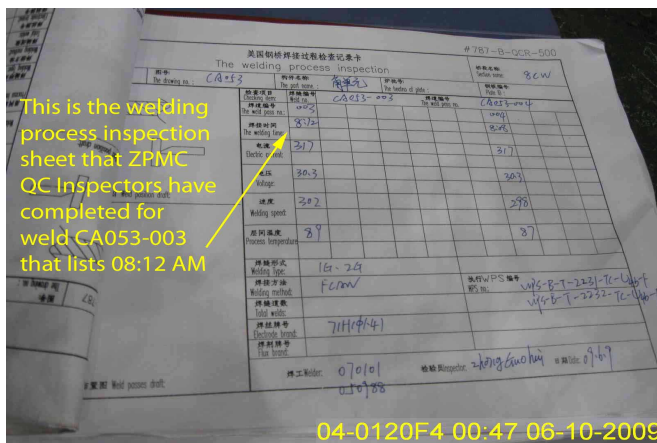
OBG Bay 13

This QA Inspector observed ZPMC welder Mr. Shi Jiabo, stencil 068494 and Mr. Zhu Tangquan are using the flux cored process WPS-B-T-2231-TC-U4b-F to make fillet weld 8CW CA53-004. The QA Inspector observed Mr. Jiabao has a welding current of approximately 300 amps and 34.0 volts and Mr. Tangquan has a welding current of approximately 350 amps and 32.0 volts. The QA Inspector asked ZPMC QC Inspector Mr. Zhang Qiang what welding voltage he had recorded for the two welders and Mr. Qiang showed this QA Inspector a QC welding tracking sheet that lists this same weld and the welding parameters for two other welders (070101 and 050988) as

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of 0812AM earlier today and there are no other times, welding parameters or welders listed for this weld. The QA Inspector asked Mr. Qiang who is the Certified Welding Inspector (CWI) that is responsible for this welding and he indicated that the CWI is Mr. Liu Fa Wen. Mr. Wen arrived in the area of the welding and this QA inspector asked him why QC has not recorded any welding parameters since approximately 16 hours ago and Mr. Qiang said he will add the two welders to this sheet, along with their welding volts, amps and travel speed. The QA Inspector asked Mr. Wen what was the maximum welding voltage allowed by the WPS and Mr. Wen said the maximum welding voltage is 32.5 volts. This QA Inspector informed Mr. Wen that Mr. Janbao appears to have a welding voltage of 34.0 volts which is 1.5 volts above the maximum. Mr. Wen said he will adjust the Mr. Janbao's welding machine, which he did, and this QA Inspector later measured a welding voltage of 31.5 volts. Approximately ten minutes later both welders were completed with this weld joint. Items observed by this QA Inspector do not appear to fully comply with project specifications. For additional information see the photograph of the QC welding process sheet for this weld joint.



Summary of Conversations:

See above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer